

PODOSTEMUM, HIPPURIS AND HOTTONIA IN  
NEW HAMPSHIRE

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*PODOSTEMUM CERATOPHYLLUM* Michx. During the past two years, collections of this much overlooked species have been made from four streams in different New Hampshire townships. A diligent search in the literature and in herbaria has failed to reveal a solitary record for the species in the state up to now. However, *Podostemum* has been collected from all bordering states as well as the adjacent province of Quebec<sup>1</sup>. In Maine from the central part southward there are at least five known localities; in Massachusetts, at least two are well known; and in Vermont, one.

In recent years there has been an intensification of interest in the aquatic flowering plants of New Hampshire, partly at least, because of the prosecution of the "Waterway Improvement Survey for Waterfowl" by the State Fish & Game Department. In the course of the work, a majority of our streams, ponds and marsh-areas have been investigated systematically and a large number of new stations for some of the less common species have been discovered. Some of these "finds" are reported in this paper along with two stations for *Podostemum* discovered by University of New Hampshire biologists in the course of work quite unrelated to the "Survey".

The first of the *Podostemum* specimens to have been collected was from the township of Lee. Data on label reads: "Bed of Lamprey River between Wadleigh Falls and Long Hill, abundant for one-third of mile in fast water, June 27, 1946, Hodgdon, Harrington and Jahoda, No. 5335. Where the plants abounded the water averaged about 1 foot in depth during a moderately dry part of the year. However, plants were found growing on loose

<sup>1</sup> For the general distribution of *Podostemum* in Eastern North America, see Fassett, N. C. *Rhodora* 41: 525-526, 1939. This is not a complete listing of all known *Podostemum* stations in New England, though specimens from Maine, Massachusetts and Connecticut are cited. The map showing the distribution of *Podostemum* on page 257 in Muenscher's "Aquatic Plants of the United States" Comstock 1944 is incomplete, since it indicates stations in New England only in Maine (one dot) and Massachusetts (one dot). In all fairness to New England collectors we should point out that *Podostemum* has been represented for some time from every state in New England except New Hampshire in the Gray Herbarium and the Herbarium of the New England Botanical Club.

boulders and on apparent bed-rocks surfaces at depth of three to four feet on the same day and in the same general locality. Later on in September, 1946, a much less extensive colony was discovered in the township of Rochester at a swift, rocky place in the Isinglass River. Specimens of this collection, *Hodgdon* No. 5587, and of the Lee material as well are deposited in the Herbarium of the New England Botanical Club and of the University of New Hampshire. During July 1936 one other excursion to the Lamprey River above Wadleigh Falls disclosed *Podostemum* in a swift rocky part of the river on the Lee-Epping boundary. Further collecting at likely places in the major streams flowing into Great Bay should yield other stations.

On July 31, 1947, H. R. Siegler and Ernest Gould of the N. H. Fish & Game Department collected *Podostemum* in North Branch Brook in Antrim and about a week later the junior author and Sumner Dole, working on the "survey", discovered an area of the species in a particularly swift part of Beards' Brook in the township of Hillsborough (*Krochmal* No. 1015). On August 13, Krochmal and Dole visited the Antrim station and obtained excellent fruiting specimens (*Krochmal* No. 1040).

*HIPPURIS VULGARIS* L. Three new stations in the state for this localized species were discovered during the 1947 season. At the Coös County stations in Pittsburg discovered by the junior author the species occurred in some abundance. Specimens were collected there from Scotts' Bog (*Krochmal* No. 1139). At East Inlet specimens were noted as occurring but none were collected. The other new locality for *Hippuris* is far to the south in Cheshire County—Highland Lake in the township of Stoddard. This was discovered by Ernest Gould. Svenson<sup>1</sup> reported the discovery of *Hippuris* immediately to the north of Stoddard in the township of Washington.

Specimens of *Hippuris* and of *Podostemum* from the stations herein reported, collected by representatives of the State Fish and Game Department, have been presented to the Herbaria of St. Anselm's College and the University of New Hampshire.

*HOTTONIA INFLATA* Ell. The junior author of this paper and Ernest Gould collected *Hottonia* from "Long Pond in Danville-

<sup>1</sup> RHODORA 31: 97, 1929.

Kingston on the 25th of June 1946". The plant was common. This specimen is in the Herbarium of St. Anselm's College. Also in 1946 *Hottonia* was observed, but not collected because its casual nature was not at that time suspected, in the Pow-wow River in Hampton and at Cub Pond in Sandown. Another locality, also in Sandown, New Hampshire, was reported several years ago by the senior author.<sup>1</sup>

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A MODEL FLORA OF NOVA SCOTIA.—The recently published Flora of Nova Scotia by Professor A. E. Roland<sup>2</sup> is a most welcome addition to the local floras of eastern North America. Provided with practical keys, characteristic drawings of many species and detailed maps of the occurrence in the province of most indigenous species, it is bound to be a much used volume. The introductory pages contain a clear statement of the geological and physiographic background so essential to a proper understanding of the flora, and the maps go outside in order to show the relation of the provincial flora to that of adjacent eastern New Brunswick, Prince Edward Island and the Magdalen Islands. In the statement of local ranges there is evidence that the author has made a canvass of some of the more inclusive herbaria where plants of his region have been assembled, though, from the occasional omission of species enumerated by Macoun as found by him within the province, one wonders if the National Herbarium at Ottawa was checked. Often the old identifications under which plants have been recorded are shown to need correction, a valuable phase of such a work. There is an evident attempt to keep up-to-date on nomenclature and the latest published revisions are often followed, with the result that this is one of the most up-to-date local floras of eastern America. Whether some recent revisions are of equal value with more careful predecessors may, however, be questioned. For instance, the present reviewer can not maintain as a good species the recently described *Suaeda Fernaldii*; this evaluation paralleling Dr. Roland's own decision that the still more recently described *Aster Rolandii* is not worthy recognition!

When a piece of work which has obviously been done with care comes out it may seem to some inappropriate to note points which, in another edition of the book, might be improved. This the present writer does in all friendliness, especially since the greater share of his field-work has been prosecuted in eastern Canada or Newfoundland. In some cases localized species or varieties are taken into the new book and given regular numbers as if they are part of the provincial flora, although in the discussion the author states that they are to be watched for, not that they there occur. To this group belong one of the

<sup>1</sup> RHODORA 46: 143, 1944.

<sup>2</sup> A. E. ROLAND. *The Flora of Nova Scotia*. Reprinted from Proc. N. S. Inst. Sci. xxi, pt. 3 (1947). Repr. 1948. 552 pp., 127 figs. (each of more than one species) and 477 maps. Truro Printing and Publishing Co., Truro, Nova Scotia.